
Madison County's response to the April 27th, 2011 storms

MADISON COUNTY DEMOGRAPHICS

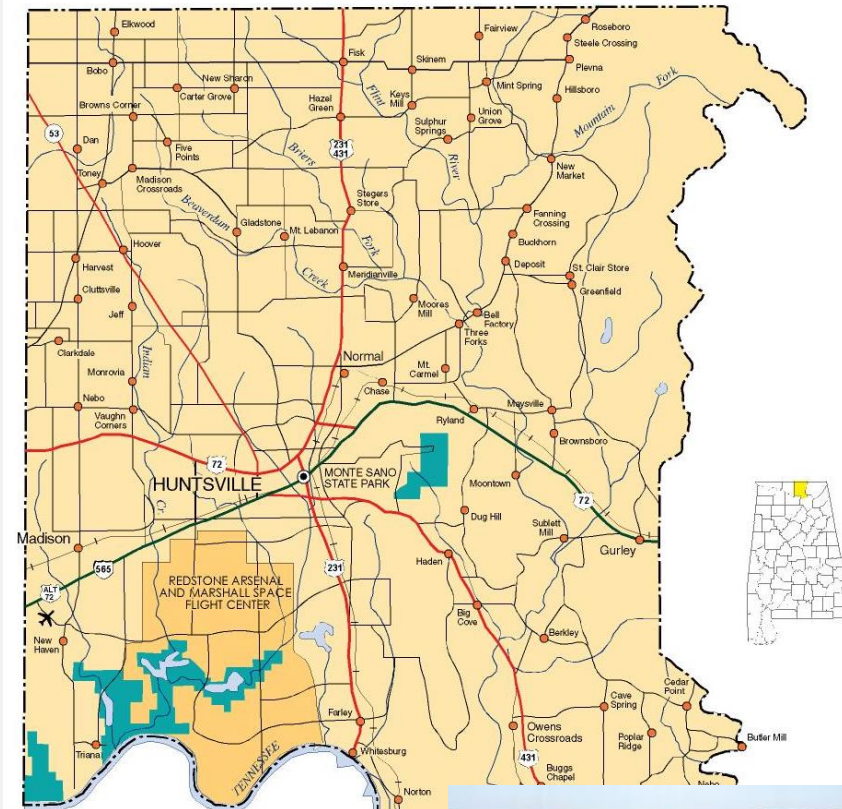
Huntsville/Madison County Demographic Summary

	Madison County	City of Huntsville	City of Madison	Huntsville Metro Area
POPULATION				
2010 Census	334,811	180,105	42,938	417,593
2013 Census	346,892	186,254	45,799	435,737
% Growth	3.6%	3.4%	6.7%	4.3%
HOUSEHOLDS				
2012 American Community Survey	131,263	74,778	15,895	162,449
RACE				
White	69.1%	62.5%	76.1%	71.7%
Black	24.0%	31.1%	13.7%	21.9%
Asian & Pacific Islander	2.4%	2.2%	6.2%	2.3%
Other Races	4.5%	4.2%	4.0%	4.1%
INCOME & AGE				
Average Household Income	\$77,819	\$70,546	\$110,359	\$75,389
Median Household Income	\$58,242	\$48,632	\$92,136	\$55,614
Per Capita Income	\$31,367	\$30,299	\$41,490	\$30,072
Median Age	37.1	36.8	36.4	37.3

Source: U.S. Census Bureau, 2014

2008-2012 American Community Survey 5-Year Estimates

MADISON COUNTY



HUNTSVILLE BUILT INFRASTRUCTURE



- Other large employers
 - Polaris
 - Toyota
 - Boeing, Raytheon, SAIC, Northrop Grumman, Lockheed Martin
 - Intergraph
 - Chrysler
 - City of Huntsville
- Employment
 - Redstone Arsenal – 33k people
 - Scientists and engineers
 - Cotton farmers
- Transportation
 - Tennessee River: Major barge traffic and commerce/recreation
 - Whitesburg Bridge
 - Hwy 565
- Infrastructure
 - 9 water systems
 - 6 wastewater utilities
 - Solid waste steam plant for Arsenal
 - 8 electrical transmission feeds
- Buildings
 - US Space and Rocket Center
 - 3 school systems
 - 6 colleges and universities
 - Sprawling downtown area with buildings mostly under 6 stories
 - Trending from agriculture to residential in rural areas

MADISON COUNTY - TORNADO

- April 3, 1974
 - 148 tornadoes in 13 states
 - 301 deaths
- In comparison, April 27, 2011
 - 226 reported tornadoes across the Southeast
 - 313 deaths.
- Alabama
 - 71 tornadoes
 - 248 deaths
 - Also had 35 reported tornadoes on April 15th.



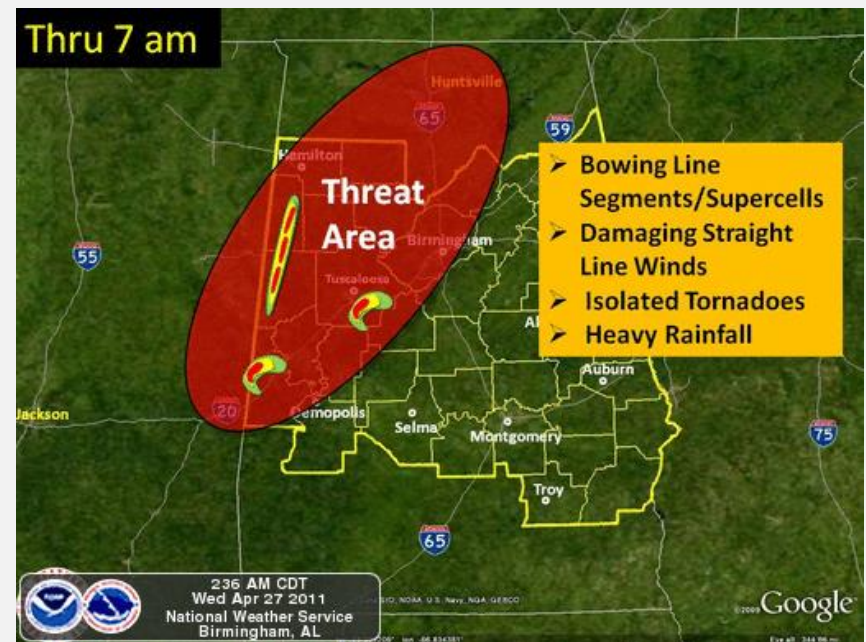
MADISON COUNTY TORNADOES



- The previous record for the number of tornadoes in the US in one month was 542 in May, 2003.
- The previous record for the month of April was 267.
- The national average number of tornadoes for April is 161.
- In April 2011, 875 tornadoes were reported.

APRIL 27, 2011 – THE DAYS AHEAD

- Five days prior to the event we were receiving briefings from the National Weather Service.
- There was high confidence that we would have a significant severe storm event on the 27th.
- Our community was well informed and most were as prepared as they could be.

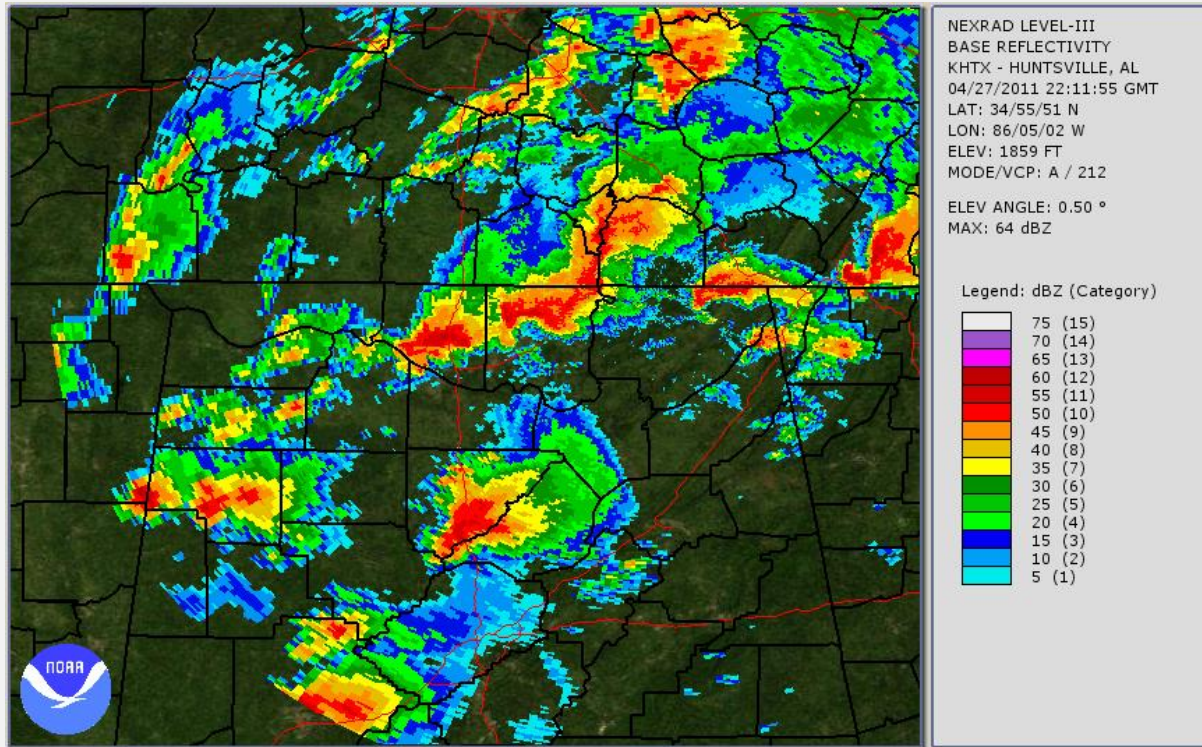


APRIL 27, 2011 – HUNTSVILLE EMA

- Warnings started coming in between 3 and 4 a.m.
- Over the next 18 hours, 92 tornado warnings would be issued by NWS HUN.
- There were 28 warnings in Madison county alone.



NATIONAL WEATHER SERVICE ACTIVITIES



- NWS and local Media were often tracking several storms simultaneously.

ALL HANDS ON DECK AT EMA – HUNTSVILLE



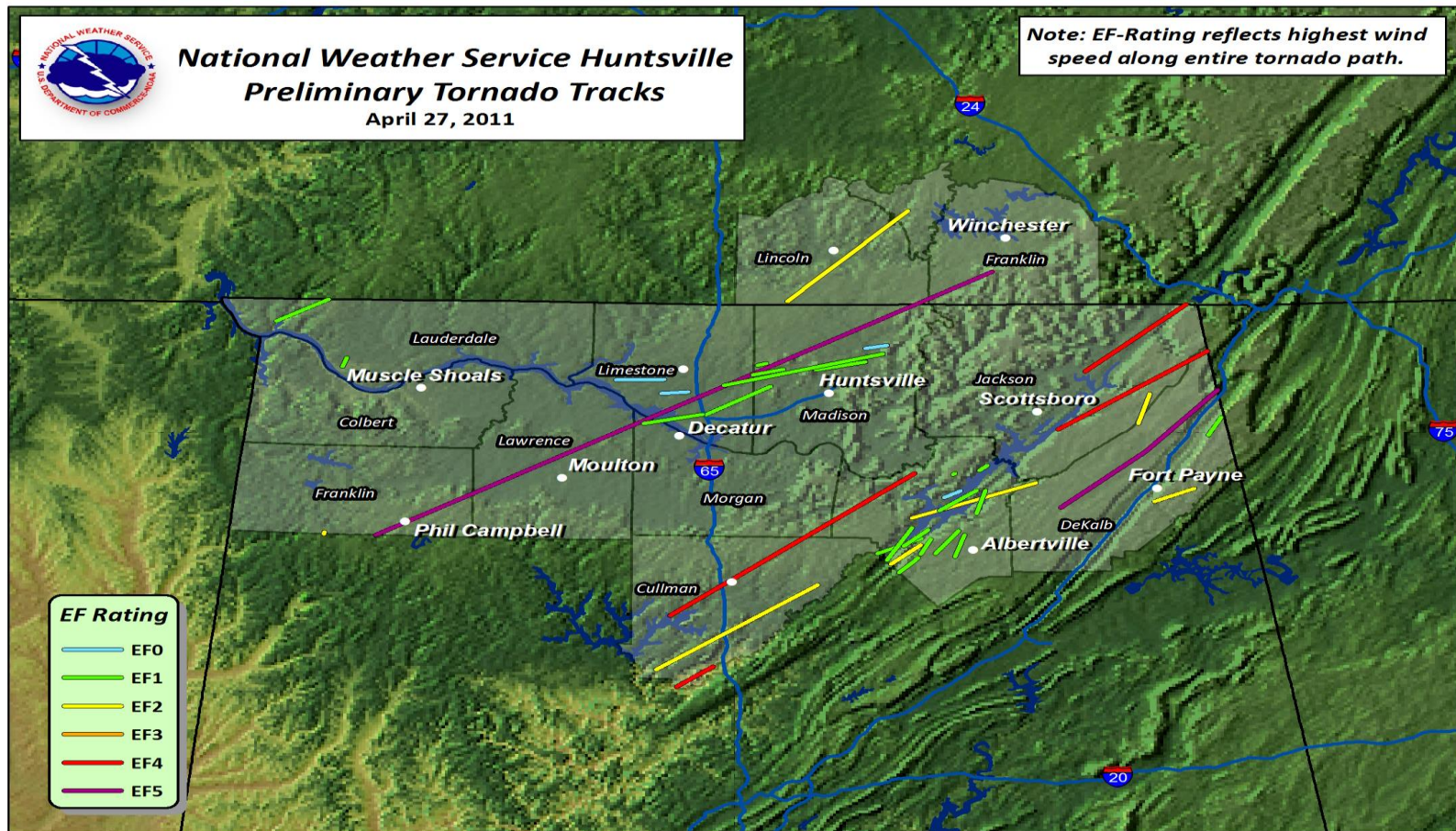
EMA HUNTSVILLE STORM TRACKING



APRIL 27, 2011 TORNADOES – MORE FUN FACTS

- The Huntsville WFO issued 92 tornado warnings between 4AM and 9PM CDT on April 27th which is incredible considering there were a total of 67 tornado warnings in their coverage area for the entire year of 2010!
- In addition to the tornado warnings, there were also 31 severe thunderstorm warnings and 7 flash flood warnings.
- Local television went wall to wall that morning, with less than two hours of normal programming for the next twenty-four hours.

APRIL 27, 2011 TORNADO TRACKS



APRIL 27, 2011 TORNADOES AFTERMATH

- Tornadoes trained across the northern 2/3 of the state for nearly 18 hours. As many as four storm tracks overlapped each other.
- The swarm of tornadoes
 - Killed 248 people across Alabama
 - Destroyed or heavily damaged more than 13,000 buildings
- American Red Cross Alabama statewide assessment
 - 6,237 single-family homes destroyed
 - 5,039 homes heavily damaged
 - 1,890 mobile homes
 - Heaviest losses were in Tuscaloosa and Birmingham
 - Many other areas in Alabama devastated

AFTERMATH IMAGES OF APRIL 27 TORNADOES



PROFOUND INFRASTRUCTURE DAMAGE



- Two miles of 500KV TVA transmission lines were destroyed.
- The majority of North Alabama was out of power 5 to 7 days.
- Generators were brought in to keep water systems and other infrastructure running.

LESSONS LEARNED

- Current and accurate Public Information is critical to an organized response
- County Commissioners and Mayors worked together to provide Mutual Aid
- Decision makers at Huntsville Utilities and TVA who could provide information were identified



MORE LESSONS LEARNED



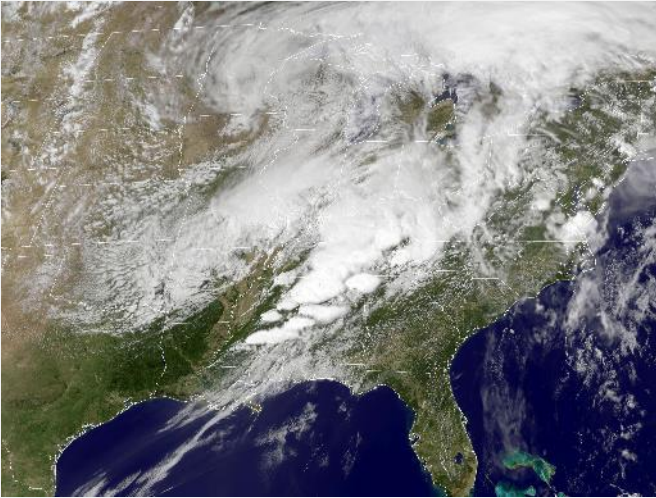
- Cell phone coverage unreliable or interrupted
 - Backup generators at cell towers ran out of fuel
- Hundreds of thousands of dollars lost to food spoilage at schools and retail businesses as well as families
- Traffic backed up as people waited in line to get gas in areas that still had power
- Radio stations stopped normal programming and went wall to wall with call in information sharing for the duration of the outage
- A dark to dawn curfew was enforced during the power outages in most counties

SOCIAL AND ECONOMIC DAMAGES FROM STORMS

- Some internet providers were off line for several days
- VOIP phone systems were down
- Businesses were closed and employees couldn't work. Revenue was lost. Income was lost.
- Schools and daycare centers were closed
- Many of those that couldn't work volunteered to help in the damaged areas



MORE SOCIAL AND ECONOMIC DAMAGES



- People could not access their bank accounts and credit cards were useless
- Major retailers like Wal-Mart, Costco, Sam's and Target managed to open by day three making the situation better
- Local utilities had to wait for TVA lines to come up before they could begin restoration in their areas
- Millions and Millions of cubic yards of debris have been picked up and processed

Since April 27, 2011

TRANSITION TO A MORE RESILIENT COMMUNITY

HUNTSVILLE AND MADISON COUNTY PREPAREDNESS

- Through our VOAD, a Long Term Recovery Committee was established
- Responders reviewed and updated their plans to include lessons learned
- Schools, hospitals, banks and many other private sector businesses focused on being prepared for a prolonged power outage

PROTECTING THE PUBLIC

- Hundreds of home owners installed safe rooms with and without federal assistance
- Community storm shelters were built where feasible as funding was available



HUNTSVILLE INITIATIVES

Huntsville Mayor Tommy Battle initiated “Exemplar City”, economic development activities in the areas of Geo/Energy/Cyber to support community-wide operations led from private sector.

1. Blueprint for Safety
 - GeoQ platform (NGA)
2. Blueprint for Sustainability
 - Energy Usage Benchmark
3. Blueprint for Security
 - Giga-Bit City



BLUEPRINT FOR SAFETY

- Incorporating Geo Metrics into day to day response operations
- TechVet, putting new and emerging technology together with responders
- Real time exercises with real time imagery and GPS for situational awareness.

The logo for "blueprint for safety" in white text on a dark blue rectangular background. The word "blueprint" is in a bold, sans-serif font, and "for safety" is in a smaller, italicized, sans-serif font.

BLUEPRINT FOR SUSTAINABILITY

- Energy Usage
Benchmark (Contracts awarded)
- Long Range Urban Planning, build energy surety into future years and reducing dependence on generators and fossil fuel

Blueprint for Sustainability



BLUEPRINT FOR SECURITY



- Giga-Bit City (RFP in place)
Hi-speed Internet access city wide
- Cyber Huntsville, cyber attack /defense exercises
- Public Private collaboration for cyber security preparedness, response and recovery



QUESTIONS?



Questions???